Syllabus — 編譯系統(Spring, 2006)

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3. Web page for this course: http://www.iis.sinica.edu.tw/~tshsu/compiler2006

4. Class materials:

   - Textbook: "*Compilers Principles, Techniques, and Tools*", by Aho, Sethi, and Ullman, 1986 (reprinted with corrections March 1988), Addison Wesley. — The "dragon" book.
   - Reference book: "*Crafting a Compiler with C*", by Fischer and LeBlanc, 1991, Benjamin/Cummings.
   - Class notes

5. 上課時間及地點: 每週四2:20PM – 5:10PM, 資102.

6. Class dates:

Feb				23	
Mar	2	9	16	23	30
Apr	6	13	20 (mid-term)	27	
May	4	12	18	25	
Jun	1	8	15		

7. Office hours: by appointments; before or after the classes.

8. Prerequisites: assembly language, high-level programming language (C-like language), data structures, and automata.

9. Topics: (Reading ch#2 and ch#12 by yourself is expected.)

   (a) Introduction (ch#1)

   (b) Lexical analysis (Scanner): (ch#3.1, 3.3, 3.4, 3.6, 3.7, 3.5) regular expressions, finite state machine, LEX

   (c) Syntax analysis (Parser): (ch#4.2–4.5, 4.7, 4.8) context-free grammar, top-down parsing, LL(1), bottom-up parsing, SLR, LR(0), LR(1), LALR(1)

   (d) Syntax-directed translation (ch#5.1–5.6, 4.9) and YACC

   (e) Symbol tables (ch#7.6, 6.5, 6.3)

   (f) Run time storage organization (ch#7.1–7.5, 7.7–7.9)

   (g) Code generation (ch#8) declarations, expressions, advanced data structure, control flow, procedure/function

   (h) Optimization (ch#9):

   (i) How to write a compiler (ch#11)

   (j) Advanced topics[1]: error handling (ch#4), optimization (ch#10), ...

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[1]if time allowed.

10. Evaluation:

    (a) homeworks (25%): all due dates for homeworks are **FIRM**, one homework per 2 to 3 lectures.
        作業遲交每一天扣10%, 抄襲(被抄襲)均不計分.

    (b) mid-term exam (35%);

    (c) final project (40%): check points, documents, presentation, and testing;

    (d) class participation and performance.